

ADMINISTRATIVE
PAGE

Memorandum

To: Courtney Zamora

From: Terry Crowell

Date: September 16, 2004

Subject: Compost Stockpile Area Sampling, Lincoln County Landfill, Libby, Montana

Background

During the ongoing investigation activities in Libby, vermiculite has been observed in mulch material obtained from the Lincoln County landfill by local residents. The landfill stockpiles shredded mulch, which is offered free of charge to the residents of Libby and is commonly used as landscape material in flowerbeds and around homes. Because of the occurrence of Libby Amphibole asbestos in vermiculite-containing soils in the Libby area, the Volpe Center requested that CDM collect samples from the compost stockpile area at the landfill in order to determine if action is required for the protection of human health.

Sampling

Soil sampling took place on May 24, 2004 in the area located west of the landfill dirt road (parallel to Pipe Creek Road) and south of the landfill office. CDM collected 21 composite soil samples from areas previously and currently used for the stockpiling and pick-up of compost materials. The entire stockpile area is approximately 650 feet by 230 feet and extends approximately another 50 feet east along its southern edge (see Figure 1 for sampling area delineation). Prior to sampling, the area was divided into 18 grids; one 5-point composite soil sample was collected in each grid. In addition, two 4-point composite soil samples were collected along the landfill dirt road and a supplemental 5-point composite soil sample was collected from the current compost stockpiles, which lie within Grids 1 and 4 (see Figure 1).

Samples were collected, handled, and analyzed in accordance with the sampling and analysis plan (SAP) for the Contaminant Screening Study (CDM 2003a). Sub-samples were thoroughly homogenized prior to submitting to CDM's Close Support Facility (CSF), where the samples were processed using procedures outlined in the CSF SAP (CDM 2003b). Samples were then sent to the analytical laboratory for analysis using polarized light microscopy visual estimation (PLM-VE) and gravimetric (PLM-Grav) methods, in accordance with project

protocols provided in the Contaminant Screening Study SAP. For reporting and decision-making purposes, only the PLM-VE results are presented in this memorandum.

During sampling, vermiculite was observed in certain portions of the sampling area. Figure 1 presents visual inspection results. Trace amounts of vermiculite were observed in the following areas: along the west perimeter dirt road; in Grids 1 through 6; and in Grids 8, 9, 10, 12, and 18. These grids generally constitute the southern half of the sampling area. Gross amounts of vermiculite were observed in Grids 11, 13, 14, and 15; while no vermiculite was seen in Grids 7, 16, or 17, or in the current compost stockpile areas identified in Figure 1.

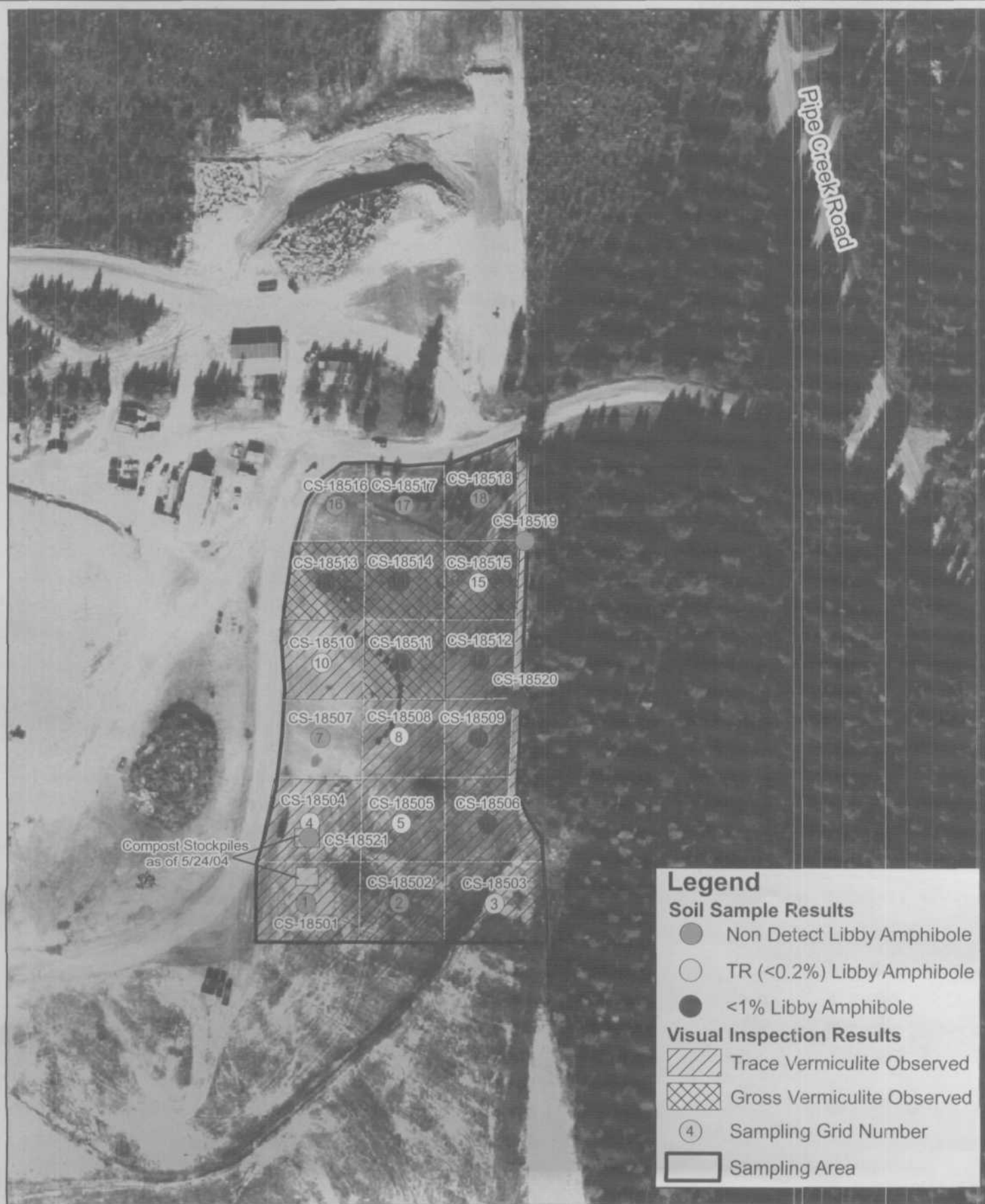
Sampling Results

Results for samples collected in Grids 1, 2, 7, 16, 17, and 18; the supplemental sample from Grids 1 and 4; and the sample representing the northern half of the dirt road were all non-detect for Libby Amphibole asbestos (LA) (8 of 21 total samples). Trace LA was detected in samples from Grids 3, 4, 5, 8, 10, and 15 (6 of 21 total samples). Results for samples collected in Grids 6, 9, 11, 12, 13, and 14, and for the sample representing the southern half of the dirt road were less than one percent (<1%) LA (7 of 21 total samples). Sampling results are presented in Table 1 and Figure 1.

References

CDM. 2003a. Final Sampling and Analysis Plan, Remedial Investigation Contaminant Screening Study for the Libby Asbestos Site, Operable Unit 4, Libby, Montana. Revision 1. May.

CDM. 2003b. Final Close Support Facility Soil Preparation Plan (Revision No. 1), Libby, Montana Asbestos Project Sample Processing. March 24.

**Figure 1**

Lincoln County Landfill
Compost Stockpile Sampling Event
Libby, MT

CDM

Table 1. Lincoln County Landfill Compost Stockpile Sampling Event

Note: The report excludes all Lab QC results, such as those associated with Lab Blanks, Lab Duplicates, Re-Preparation, Re-count Same, Re-count Different, Verified Analysis, etc.

Sample ID	Visual Quantification of Vermiculite	Scenario	Property Group (Location)	Sample Group	Location Description (Sub Location)	Media Type	Matrix	Category	Sample Date	PLM			
										Method	LA Bin	LA (%)	C (%)
CS-18501-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 1	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18502-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 2	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18503-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 3	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18504-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 4	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18505-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 5	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18506-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 6	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18507-FG1	none	N/A	Lincoln County Landfill	Property	Grid 7	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18508-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 8	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18509-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 9	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18510-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 10	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18511-FG1	gross	N/A	Lincoln County Landfill	Property	Grid 11	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18512-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 12	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18513-FG1	gross	N/A	Lincoln County Landfill	Property	Grid 13	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18514-FG1	gross	N/A	Lincoln County Landfill	Property	Grid 14	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18515-FG1	gross	N/A	Lincoln County Landfill	Property	Grid 15	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B1	TR	ND
CS-18516-FG1	none	N/A	Lincoln County Landfill	Property	Grid 16	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18517-FG1	none	N/A	Lincoln County Landfill	Property	Grid 17	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18518-FG1	trace	N/A	Lincoln County Landfill	Property	Grid 18	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18519-FG1	trace	N/A	Lincoln County Landfill	Property	north portion dirt road	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND
CS-18520-FG1	trace	N/A	Lincoln County Landfill	Property	south portion dirt road	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	B2	< 1	ND
CS-18521-FG1	none	N/A	Lincoln County Landfill	Property	current compost pile areas - Grids 1 and 4	Soil-Like	Surface soil	Field Sample	5/24/2004	PLM-VE	A	ND	ND